E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[Docket No. 211208-0254]

RIN 0648-BK69

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to U.S. Navy Construction at Naval Station Newport in Newport, Rhode Island

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS, upon request of the U.S. Navy (Navy), hereby issues regulations to govern the unintentional taking of marine mammals incidental to construction activities for bulkhead replacement and repairs at Naval Station Newport (NAVSTA Newport) over the course of five years (2022-2027). These regulations, which allow for the issuance of a Letter of Authorization (LOA) for the incidental take of marine mammals during the described activities and specified timeframes, prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on marine mammal species or stocks and their habitat, as well as requirements pertaining to the monitoring and reporting of such taking.

DATES: Effective from May 15, 2022, through May 14, 2027.

ADDRESSES: A copy of the Navy's application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-us-navy-*

construction-naval-station-newport-rhode-island. In case of problems accessing these documents, please call the contact listed below.

FOR FURTHER INFORMATION CONTACT: Stephanie Egger, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Purpose and Need for Regulatory Action

We received an application from the Navy requesting five-year regulations and authorization to take multiple species of marine mammals. This rule establishes a framework under the authority of the Marine Mammal Protection Act (MMPA)(16 U.S.C. 1361 *et seq*.) to allow for the authorization of take by Level A and Level B harassment incidental to the Navy's construction activities, including impact and vibratory pile driving. Please see **Background** below for definitions of harassment.

Legal Authority for the Planned Action

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1371(a)(5)(A)) directs the Secretary of Commerce to allow, upon request, the incidental, but not intentional taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region for up to five years if, after notice and public comment, the agency makes certain findings and issues regulations that set forth permissible methods of taking pursuant to that activity and other means of effecting the "least practicable adverse impact" on the affected species or stocks and their habitat (see the discussion below in the **Mitigation** section), as well as monitoring and reporting requirements. Section 101(a)(5)(A) of the MMPA and the implementing regulations at 50 CFR part 216, Subpart R provide the legal basis for issuing this final rule containing five-year regulations, and for any subsequent LOAs. As directed by this legal authority, this final rule contains mitigation, monitoring, and reporting requirements.

Summary of Major Provisions within the Final Rule

Following is a summary of the major provisions of this final rule regarding Navy construction activities. These measures include:

- Required monitoring of the construction areas to detect the presence of marine mammals before beginning construction activities;
- Shutdown of construction activities under certain circumstances to avoid injury of marine mammals; and
- Soft start for impact pile driving to allow marine mammals the opportunity to leave the area prior to beginning impact pile driving at full power.

Background

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1361 *et seq*.) directs the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made, regulations are issued, and notice is provided to the public.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth.

NMFS has defined "negligible impact" in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Summary of Request

In July 2020, NMFS received a request from the Navy requesting authorization to take small numbers of seven species of marine mammals incidental to construction activities including bulkhead replacement and repairs at NAVSTA Newport. NMFS reviewed the Navy's application, and the Navy provided responses addressing NMFS' questions and comments on February 22, 2021. The application was deemed adequate and complete and published for public review and comment on May 19, 2021 (86 FR 27069). We did not receive substantive comments on that notice and request for comments and information. We subsequently published a proposed rule in the **Federal Register** on October 13, 2021 (86 FR 56857). Comments received during the public comment period on the proposed regulations are addressed in the **Comments and Response**s section of this final rule.

The Navy requested authorization to take a small number of seven species of marine mammals by Level A and B harassment. Neither the Navy nor NMFS expects serious injury or mortality to result from this activity. The regulations are valid for five years (2022-2027).

Description of Specified Activity

The Navy plans to replace or repair several sections of deteriorating, unstable, hazardous, and eroding bulkhead, sheet pile, and revetment (approximately 2,730 total linear feet (ft)) along the Coddington Cove waterfront of NAVSTA Newport. Over time,

the existing storm sewer systems and bulkheads along the Coddington Cove waterfront have severely degraded due to erosion from under-capacity stormwater system piping and aging infrastructure. This impacts the ability of the installation to minimize shoreline erosion and minimize safety risks from associated upland subsidence, while also maintaining potential berthing space. The Navy plans to conduct necessary work, including impact and vibratory pile driving, to repair and replace bulkheads over five years. The specified activities may occur at any time during the 5-year period of validity of the regulations. The Navy expects pile driving to occur on approximately 222 non-consecutive in-water pile driving days over the five-year duration. Pile driving activities are anticipated to be completed within 4 years. However, because the planned construction is dependent on the allocation of funding, the Navy requested that the LOA be issued for the entire 5-year construction period to ensure flexibility in the project schedule. Table 1 provides the anticipated construction schedule for the planned activities.

Table 1--Coddington Cove Bulkhead Replacement and Repair Summary Schedule

Section ID	Bulkhead Replacement (lf)	Revetment Replacement (lf)	Outfalls Replaced	Dredging Area (ft^2)	Dredging Volume (cy)	Construction Start Date
S45	310	250	Yes (3)	8,400	650	May 15, 2022
S366	90	0	Yes (1)	1,350	100	October 15, 2023
Pier 1	100	0	No	1,500	120	October 15, 2023
LNG	650	0	Yes (2)	9,750	760	October 15, 2024
S499/Pier 2	510	90	Yes (5)	9,000	700	October 15, 2025
S50	730 (repair)	0	Yes (2)	0	0	October 15, 2026

Source: NAVFAC Mid-Atlantic 2018.

The specific sections planned for bulkhead repair and replacement are described in detail in the proposed rule (86 FR 56857; October 13, 2021) and are summarized in Table 2 below.

Table 2 -- Bulkhead Pile Installation Activity

Facility	Method of Pile Driving	Pile Type	Pile Size	Number of Sheets (pairs)/Piles	Strikes per Pile	Vibratory Driving Minutes per Pile	Maximum Number of Piles Installed per Day	Maximum Number of Pile Driving Days
S45	Vibratory/Impact	Z-shaped Steel Sheet Pile	3.75 ft per pair/22.5-in each	80 pair	530	13	10	27
	Impact	Steel Pipe Pile	30-in	4	530	NA	2	4
	Vibratory	Steel H-pile	14-in	76	NA	10	12	13
S366	Vibratory/Impact	Z-shaped Steel Sheet Pile	3.75 ft per pair/22.5-in each	14 pair	530	13	10	5
	Impact	Steel pipe pile	30-in diameter	15	530	NA	2	15
	Vibratory	Steel H-pile	14-in	14	NA	10	12	3
S499/Pier 2	Vibratory/Impact	Z-shaped Steel Sheet Pile	5.25 ft per pair/31.5-in each	70 pair	530	13	8	23
	Impact	Steel Pipe Pile	42-in	35	530	NA	4	18
	Vibratory	Steel H-pile	14-in	79	NA	10	12	14
LNG	Vibratory/Impact	Z-shaped Steel Sheet Pile	3.75 ft per pair/22.5-in each	173 pair	530	13	10	58
	Vibratory	Steel H-pile	14-in	164	NA	10	12	28
Pier 01	Vibratory/Impact	Z-shaped Steel Sheet Pile	3.75 ft per pair/22.5-in each	27 pair	530	13	10	9
	Vibratory	Steel H-pile	14-in	26	NA	10	12	5
Total sheet piles pairs/pipe and H-piles installed				364/413				
Total days pile driving								222

Legend: NA = not applicable, ft = foot; Start date of in-water work and duration are to be determined.

Since the proposed rule, which contains a detailed description of the planned construction, was published (86 FR 56857; October 13, 2021), no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to the proposed rule for further description of the specific activity.

Comments and Responses

We published a proposed rule in the **Federal Register** on October 13, 2021 (86 FR 56857). During the 30-day comment period, we received six comments from private citizens, with five expressing general support for the project and one expressing general opposition to the project.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the Navy's application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history, of the potentially affected species. Additional information regarding population trends and threats may be found in NMFS's Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.*, physical and behavioral descriptions) may be found on NMFS's website (*https://www.fisheries.noaa.gov/find-species*).

Table 3 lists all species or stocks for which take is expected and planned for authorization, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2021). PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no mortality is anticipated or authorized here, PBR

and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS's U.S. Atlantic and Gulf of Mexico SARs (*e.g.*, Hayes *et al.* 2021). All values presented in Table 3 are the most recent available at the time of publication and are available in the 2020 SARs (Hayes *et al.* 2021) or the 2021 draft SARS, available at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports*.

Table 3 -- Marine Mammal Species Likely To Occur Near the Project Area

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae						
Atlantic white-sided dolphin	*Lagenorhynchus acutus*	Western North Atlantic	-, -; N	93,233 (0.71; 54,443; 2016)	544	27
Common dolphin	*Delphinus delphis*	Western North Atlantic	-, -; N	172,974 (0.21; 145,216; 2016)	1,452	390
Family Phocoenidae (porpoises)						
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy	-, -; N	95,543 (0.31; 74,043; 2016)	851	164
Order Carnivora – Superfamily Pinnipedia						
Family Phocidae (earless seals)						
Harbor seal	*Phoca vitulina*	Western North Atlantic	-,-; N	61,336(0.08/; 57,637, 2018)	1,729	339

Gray seal	*Halichoerus grypus*	Western North Atlantic	-,-; N	27,300 (0.22, 22,785, 2016)[4]	1,389	4,453
Harp seal	*Pagophilus groenlandicus*	Western North Atlantic	-,-; N	7,600,000 (unk,7,100.000, 2019)	426,000	178,573
Hooded seal	*Cystophora cristata*	Western North Atlantic	-,-; N	593,500	unknown	1,680

1 - Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.
2- NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region*. CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable.
3 - These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, ship strike). Annual Mortality/Serious Injury (M/SI) often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.
4 – This abundance value and the associated PBR value reflect the US population only. Estimated abundance for the entire Western North Atlantic stock, including animals in Canada, is 451,600. The annual M/SI estimate is for the entire stock.

As indicated above, all seven species in Table 3 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur, and we have authorized take. Several depleted species of whales occur seasonally in the waters off Rhode Island including Humpback (*Megaptera novaeangliae*), Fin (*Balaenoptera physalus*), Sei (*Balaenoptera borealis*), Sperm (*Physeter macrocephalus*) and North Atlantic Right whales (*Eubaleana glacialis*). These whales are seasonally present in New England waters; however, due to the depths of Narragansett Bay and near shore location of the project area, these listed marine mammals are unlikely to occur. Therefore, no takes were requested and none are anticipated or planned for authorization by NMFS and they are not discussed further.

A detailed description of the species likely to be affected by the Navy's project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the proposed rule (86 FR 56857; October 13, 2021). We

are not aware of any changes in the status of these species and stocks since that time. Please refer to the proposed rule for these descriptions (86 FR 56857; October 13, 2021).

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Current data indicate that not all marine mammal species have equal hearing capabilities (*e.g.*, Richardson *et al.* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007) recommended that marine mammals be divided into functional hearing groups based on directly measured or estimated hearing ranges on the basis of available behavioral response data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data. Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.*, low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible, thus the lower bound from Southall *et al.* (2007) is retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 4.

Table 4 -- Marine Mammal Hearing Groups (NMFS, 2018)

Hearing Group	Generalized Hearing Range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz
High-frequency (HF) cetaceans (true porpoises, *Kogia*, river dolphins, cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*)	275 Hz to 160 kHz
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz
* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.* 2007) and PW pinniped (approximation).	

The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al.* 2006; Kastelein *et al.* 2009; Reichmuth and Holt, 2013).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information. Seven marine mammal species (three cetacean and four phocid pinniped species) have the reasonable potential to co-occur with the planned construction activities. Please refer to Table 3. Of the cetacean species that may be present, two are classified as a mid-frequency cetacean (*i.e.*, dolphins), and one is classified as a high-frequency cetacean (*i.e.*, harbor porpoise).

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effects of underwater noise from the Navy's activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The proposed rule (86 FR 56857; October 13, 2021) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from the Navy's construction activities on marine mammals and their habitat.

That information and analysis applies to this final rule and is not repeated here; please refer to the proposed rule (86 FR 56857; October 13, 2021).

The **Estimated Take** section in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The **Negligible Impact Analysis and Determination** section considers the content of this section, the **Estimated Take** section, and the **Mitigation Measures** section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and how those impacts on individuals are likely to impact marine mammal species or stocks. We also provided additional description of sound sources in our proposed rule (86 FR 56857; October 13, 2021).

Estimated Take

This section provides an estimate of the number of incidental takes authorized, which will inform both NMFS' consideration of small numbers and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would be by Level A and B harassment, in the form of disruption of behavioral patterns and potential TTS and PTS for individual marine mammals resulting from exposure to pile driving and removal. As described previously, no serious injury or mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the take estimate.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment – Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.*, frequency, predictability, duty cycle), the environment (*e.g.*, bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.* 2007, Ellison *et al.* 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 dB re 1 μPa

(rms) (reference pressure microPascal, root mean square) for continuous (*e.g.,* vibratory pile-driving, drilling) and above 160 dB re 1 µPa (rms) for non-explosive impulsive (*e.g.*, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources.

The Navy's construction includes the use of continuous (vibratory pile driving) and impulsive (impact pile driving) sources, and therefore the level of 120 and 160 dB re 1 µPa (rms) is applicable.

Level A harassment - NMFS' *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing* (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise. The technical guidance identifies the received levels, or thresholds, above which individual marine mammals are predicted to experience changes in their hearing sensitivity for all underwater anthropogenic sound sources, and reflects the best available science on the potential for noise to affect auditory sensitivity. The technical guidance does this by identifying threshholds in the follow manner:

- Dividing sound sources into two groups (*i.e.*, impulsive and non-impulsive) based on their potential to affect hearing sensitivity;
- Choosing metrics that best address the impacts of noise on hearing sensitivity, *i.e.*, sound pressure level (peak SPL) and sound exposure level (SEL) (also accounting for duration of exposure); and
- Dividing marine mammals into hearing groups and developing auditory weighting functions based on the science supporting the fact that not all marine mammals hear and use sound in the same manner.

These thresholds were developed by compiling and synthesizing the best available science and are provided in Table 5 below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2018 Technical

Guidance, which may be accessed at *https://www.fisheries.noaa.gov/national/marine-mammal-protection*.

The Navy's planned construction includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving) sources.

Table 5 -- Thresholds Identifying the Onset of Permanent Threshold Shift

	PTS Onset Acoustic Thresholds* (Received Level)	
Hearing Group	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1* $L_{pk,flat}$: 219 dB $L_{E,LF,24h}$: 183 dB	*Cell 2* $L_{E,LF,24h}$: 199 dB
Mid-Frequency (MF) Cetaceans	*Cell 3* $L_{pk,flat}$: 230 dB $L_{E,MF,24h}$: 185 dB	*Cell 4* $L_{E,MF,24h}$: 198 dB
High-Frequency (HF) Cetaceans	*Cell 5* $L_{pk,flat}$: 202 dB $L_{E,HF,24h}$: 155 dB	*Cell 6* $L_{E,HF,24h}$: 173 dB
Phocid Pinnipeds (PW) (Underwater)	*Cell 7* $L_{pk,flat}$: 217 dB $L_{E,PW,24h}$: 185 dB	*Cell 8* $L_{E,PW,24h}$: 201 dB
Otariid Pinnipeds (OW) (Underwater)	*Cell 9* $L_{pk,flat}$: 232 dB $L_{E,OW,24h}$: 203 dB	*Cell 10* $L_{E,OW,24h}$: 219 dB

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 µPa, and cumulative sound exposure level (L_E) has a reference value of 1µPa^{2}s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.*, varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds, which include source levels transmission loss coefficient.

Sound Propagation

Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

$TL = B * \log_{10}(R_1/R_2)$, where

B = transmission loss coefficient (assumed to be 15)

R_1 = the distance of the modeled SPL from the driven pile, and

R_2 = the distance from the driven pile of the initial measurement.

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source is dependent on a variety of factors, most notably the water bathymetry and presence or absence of reflective or absorptive conditions, including in-water structures and sediments. Spherical spreading occurs in a perfectly unobstructed (free-field) environment not limited by depth or water surface, resulting in a 6 dB reduction in sound level for each doubling of distance from the source (20*log(range)). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of 3 dB in sound level for each doubling of distance from the source (10*log(range)). As is common practice in coastal waters, here we assume practical spreading (4.5 dB reduction in sound level for each doubling of distance). Practical spreading is a compromise that is often used under conditions where

water depth increases as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions. Practical spreading was used to determine sound propagation for this project.

Sound source levels

The intensity of pile driving sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. There are sound source level (SSL) measurements available for certain pile types and sizes from the similar environments from other Navy pile driving projects that were evaluated and used as proxy sound source levels to determine reasonable sound source levels likely to result from the pile driving and removal activities (Table 6). Some of the proxy source levels are expected to be conservative, as the values are from larger pile sizes.

Table 6--Underwater Noise Sound Source Levels Modeled for Impact and Vibratory Pile Driving

Pile Size, Type	Method	Sound Pressure Levels (SPL) or Sound Exposure Level (SEL) at 10m distance		
		Peak SPL	RMS SPL	SEL
42-in Diameter Steel Pipe[1]	Impact	211	196	181
30-in Diameter Steel Pipe[2]	Impact	211	196	181
14-in Steel H-pile[3]	Vibratory	NA	158	158
31.5-in Z-shaped Steel Sheet[4]	Impact	211	196	181
31.5-in Z-shaped Steel Sheet[5]	Vibratory	NA	163	163
22.5-in Z-shaped Steel Sheet[3]	Impact	205	190	180
22.5-in Z-shaped Steel Sheet[5]	Vibratory	NA	163	163

Legend: All sound pressure levels (SPLs) are unattenuated; dB=decibels; rms = root mean square, SEL = sound exposure level; NA = Not applicable; NR = Not reported

Notes:

1 = Navy pers comm. 2021.

2 = Navy San Diego Bay Acoustic Compendium (NAVFAC SW 2020).

3= Caltrans 2015

4 = A proxy value for 31-in sheet piles could not be found for impact driving so the proxy for a 30-in steel pipe pile has been used from NAVFAC SW (2020). This value was also used for Z-shaped steel sheets for the Navy's Dry Dock 1 Modification and Expansion, Portsmouth Naval Shipyard, Kittery, Maine 2021 IHA (86 FR 14598; March 17, 2021).

5 = For vibratory driving of 31-in sheet piles and 22.5-in Z-shaped steel sheet piles, 163 dB SPL was used based on measurements conducted by the Naval Facilities Engineering Command Mid-Atlantic (NAVFAC Mid-Atlantic) in the Technical Memorandum Nearshore Marine Mammal Surveys, Portsmouth Naval Shipyard (2018).

For 42-in steel piles, a SSL of 181 dB SEL was used for impact driving and is similar to SSL of 180 dB SEL for 36-in piles in CALTRANS (2015). There are no SSL values for 42-in piles in CALTRANS, the nearest values are for 36-in and 60-in steel pipe piles. For 30-in steel pipe piles, an SSL of 181 dB SEL was used for impact pile driving as a proxy from the Navy's San Diego Bay Acoustic Compendium (NAVFAC SW 2020) (the median value from the greatest sound levels recorded for 30-in steel piles). The SSL used for 30-in steel piles during impact pile driving is also more conservative than the SSL of 177 dB SEL for 30-in steel piles in CALTRANS (2015). For 31.5-in sheet piles, an SSL of 181 dB SEL was used for impact pile driving as a proxy from 30-in steel pipe piles (NAVFAC SW 2020), which is also slightly more conservative than an SSL of 180 dB SEL for 24-in piles in CALTRANS (2015) (no larger sheet piles are described in CALTRANS 2015). During vibratory pile driving of 31.5-in sheet piles, the Navy used an SSL of 163 dB SPL, which is also more conservative than an SSL of 160 dB SPL for 24-in sheet piles in CALTRANS (2015) (no large sheet piles are described in CALTRANS 2015). For 22.5-in Z-shaped steel sheet piles, an SSL of 180 dB SEL was used for impact pile driving and is also equivalent to 24-in sheet piles in CALTRANS (2015). During vibratory pile driving, an SSL of 163 dB SPL is a proxy from NAVFAC Mid-Atlantic (2018) and is also more conservative than 24-in sheet piles in CALTRANS (2015) where the SSL is 160 dB SPL for 24-in sheet piles (no larger sheet piles are described in CALTRANS (2015). For 14-in steel H-piles, an SSL of 158 dB SPL was used from CALTRANS (2015).

Level A Harassment

In conjunction with the NMFS Technical Guidance (2018), in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, NMFS developed a User Spreadsheet

that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that, because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which may result in some degree of overestimation of Level A harassment take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools and will qualitatively address the output where appropriate. For stationary sources (such as from impact and vibratory pile driving), the NMFS User Spreadsheet (2020) predicts the closest distance at which, if a marine mammal remained at that distance the whole duration of the activity, it would not incur PTS. Inputs used in the User Spreadsheet (Tables 7 and 8), and the resulting isopleths are reported below (Table 9).

Table 7--NMFS Technical Guidance (2020) User Spreadsheet Input to Calculate PTS Isopleths for Vibratory Pile Driving

USER SPREADSHEET INPUT –Vibratory Pile Driving Spreadsheet Tab A.1 Vibratory Pile Driving Used.			
	14-in steel H-pile	22.5-in Z-shaped sheet piles	31.5-in Z-shaped sheet piles
Source Level (RMS SPL)	158	163	163
Weighting Factor Adjustment (kHz)	2.5	2.5	2.5
Number of piles within 24-hr period	12	10	8
Duration to drive a single pile (min)	10	13	13
Propagation (xLogR)	15	15	15

Distance of source level measurement (m)	10	10	10

Table 8--NMFS Technical Guidance (2020) User Spreadsheet Input to Calculate PTS Isopleths for Impact Pile Driving

USER SPREADSHEET INPUT – Impact Pile Driving Spreadsheet Tab E.1 Impact Pile Driving Used.				
	22-in Z-shaped piles	31.5-in Z-shaped piles	30-in pile	42-in pile
Source Level (Single Strike/shot SEL)	180	181	181	181
Weighting Factor Adjustment (kHz)	2	2	2	2
Number of strikes per pile	530	530	530	530
Number of piles per day	10	8	2	4
Propagation (xLogR)	15	15	15	15
Distance of source level measurement (m)	10	10	10	10

Table 9--NMFS Technical Guidance (2020) User Spreadsheet Outputs to Calculate Level A Harassment PTS Isopleths

USER SPREADSHEET OUTPUT		PTS isopleths (m)				
Activity	Sound Source Level at 10 m	Level A harassment				
		Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Phocid	Otariid
Vibratory Pile Driving/Removal						
14-in H-pile	158 SPL	6.8	0.6	10.1	4.2	0.3
22.5-in Z-shaped sheet piles	163 SPL	15.5	1.4	23.0	9.4	0.7
31.5-in Z-shaped sheet piles	163 SPL	13.4	1.2	19.8	8.1	0.6
Impact Pile Driving						

22.5-in Z-shaped sheet piles	180 SEL/ 190 SPL	1,915.4	68.1	2,281.5	1,025.0	74.6
31.5-in Z-shaped sheet piles	181 SEL/ 196 SPL	1,942.5	68.4	2,292.4	1,029.9	75.0
30-in pile	181 SEL/ 196 SPL	763.7	27.2	909.7	408.7	29.8
42-in pile	181 SEL/ 196 SPL	1,212	43.1	1,444.1	648.8	47.2

Level B Harassment

Utilizing the practical spreading model, NMFS determined underwater noise will fall below the behavioral effects threshold of 120 dB rms for marine mammals at the distances shown in Table 10 for vibratory pile driving. With these radial distances, the largest Level B harassment zone calculated was 7,356 m for sheet piles. However, this distance would be truncated due to the presence of intersecting land masses. For calculating the Level B harassment zone for impact driving, the practical spreading loss model was used with a behavioral threshold of 160 dB rms. The maximum radial distance of the Level B harassment zone for impact piling equaled 2,512 m for 30-in piles, 42-in piles and 31.5-in sheet piles. Table 10 below provides all Level B harassment radial distances (m) and ensonified areas (km^2) during the Navy's planned activities.

Table 10-- Distances to Relevant Behavioral Isopleths and Ensonified Areas

Year (Section)	Activity	Received Level at 10 m	Level B Harassment Zone (m/km^2)*
	Vibratory Pile Driving		
Year 1 (S45)	14-in H-piles	158 SPL	3,415 m/5.6 km^2
Year 2 (S366) Year 2 (Pier 1)	14-in H-piles	158 SPL	3,415 m/5.8 km^2
Year 3 (LNG)	14-in H-piles	158 SPL	3,415 m/5.8 km^2
Year 4 (S499/Pier 2)	14-in H-piles	158 SPL	3,415 m/5.7 km^2
Year 1 (S45)	22.5-in Z-shaped sheet piles	163 SPL	7,356 m/7.9 km^2

Year 2 (S366) Year 2 (Pier 1)	22.5-in Z-shaped sheet piles	163 SPL	7,356 m/8.3 km^2
Year 3 (LNG)	22.5-in Z-shaped sheet piles	163 SPL	7,356 m/7.5 km^2
Year 4 (S499/Pier 2)	22.5-in Z-shaped sheet piles	163 SPL	7,356 m/7.5 km^2
Year 4 (S499/Pier 2)	31.5-in Z-shaped sheet piles	163 SPL	7,356 m/9.5.km^2
	Impact Pile Driving		
Year 1 (S45)	22.5-in Z-shaped sheet piles	180 SEL/ 190 SPL	1,000 m/1.1 km^2
Year 2 (S366) Year 2 (Pier 1)	22.5-in Z-shaped sheet piles	180 SEL/ 190 SPL	1,000 m/1.3 km^2
Year 3 (LNG)	22.5-in Z-shaped sheet piles	180 SEL/ 190 SPL	1,000 m/0.7 km^2
Year 4 (S499/Pier 2)	31.5-in Z-shaped sheet piles	181 SEL/ 196 SPL	2,512 m/3.8 km^2
Year 1 (S45)	30-in piles	181 SEL/ 196 SPL	2,512 m/3.8 km^2
Year 2 (S366)	30-in piles	181 SEL/ 196 SPL	2,512 m/4.0 km^2
Year 4 (S499/Pier 2)	42-in piles	181 SEL/ 196 SPL	2,512 m/3.8 km^2

*Note: Distances to the Level B harassment zone may vary slightly of the same pile size, due to the section of work being conducted and how the produced sound would be directed (see Figures 6-1 through 6-4 of the Navy's application).

Marine Mammal Occurrence and Take Calculation and Estimation

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations. Potential exposures to impact pile and vibratory pile driving noise for each acoustic threshold were estimated using marine mammal density estimates (N) from the Navy Marine Species Density Database NMSDD (Navy 2017) for which data of monthly densities of species were evaluated in terms of minimum, maximum, and average annual densities within Narragansett Bay and multiplied by the zone of influence (ZOI) and the maximum days of pile driving (take estimate = N x ZOI x days of pile driving). The pile type, size, and installation method that produce the largest ZOI were used to estimate exposure of marine mammals to noise impacts. We describe how the information provided above is brought together to produce a quantitative take estimate in the species sections below.

Atlantic White-sided dolphins

Atlantic white-sided dolphins occur seasonally, occurring primarily along the continental shelf with occasional unconfirmed opportunistic sightings in Narragansett Bay in fall and winter. The most recent observation of a pod of dolphins in Narragansett Bay was in October 2007 (NUWC Division, 2011). Construction activity could occur at any time of year and would be short-term and intermittent. Therefore, the average species density was determined to be appropriate for estimating takes of Atlantic white-sided dolphin. Based on density data for Narragansett Bay (Navy 2017), the average density of Atlantic white-sided dolphin was determined to be 0.003/km^2. This density was used to estimate abundance of animals that could be present in the area for exposure. Using this information, 1 take was calculated for Years 1, 3, and 4 and 0 takes in Year 2 (Table 11). However, the annual take by Level B harassment for Atlantic white-sided dolphins has been increased to the average group size (16) (NAVSEA NUWC 2017) for Years 1, 3, and 4, because the calculated annual take is below the average group size. Therefore, the Navy requested, and NMFS authorized, 16 takes annually in Years 1, 3, and 4 (0 in Year 2) for a total of 48 takes by Level B harassment of Atlantic white-sided dolphin (Table 11). No takes by Level A harassment of Atlantic white-sided dolphin are anticipated to occur or are authorized. Because this species' regular occurrence is in much deeper waters than the extent of the ZOI (Hayes *et al*., 2019), expected takes of this species are extremely low.

Table 11— Estimated Take for Atlantic white-sided dolphin

Construction Year	Calculated Level B harassment	Authorized Level B harassment
Year 1 (S45)	1	16
Year 2 (S366 and Pier 01)	0	0
Year 3 (LNG)	1	16
Year 4 (S499/Pier 2)	1	16
TOTAL	3	48

Common Dolphin

Common dolphins are the most likely dolphin species to be spotted in Narragansett Bay, and usually occur in late fall or winter (Kenney, 2013). The most recent sighting of a common dolphin recorded in Narragansett Bay was in October of 2016 (Hayes *et al*., 2019). Construction activity could occur at any time of year and would be short-term and intermittent. Based on density data for Narragansett Bay (NMSDD, Navy, 2017), the average density of common dolphin was determined to be 0.011/km^2. Using this information, 3 takes by Level B harassment were calculated for Years 1 and 4, 2 takes for Year 2 and 6 takes for Year 3 (Table 12). Because the calculated annual take is below the average group size, the annual take by Level B harassment for common dolphin has been increased to the average group size (28) (NAVSEA NUWC 2017). Therefore, the Navy requested, and NMFS authorized, 28 takes annually (with the exception of Year 2, for which it was doubled to 56 takes as a conservative approach to account for more vibratory and impact pile driving activities that occur during that year in two sections (S366 and Pier 1)) for a total of 140 takes by Level B harassment of common dolphin (Table 12). No takes by Level A harassment of common dolphin are anticipated to occur or are authorized. Because this species' regular occurrence is in much deeper waters than the extent of the ZOI (Hayes *et al*., 2019), takes of this species are expected to be extremely low.

Table 12— Estimated Take for Common dolphin

Construction Year	Calculated Level B harassment	Authorized Level B harassment
Year 1 (S45)	3	28
Year 2 (S366 and Pier 01)	2	56
Year 3 (LNG)	6	28
Year 4 (S499/Pier 2)	3	28
Total	14	140

Harbor Porpoise

Harbor porpoise are not common to Narragansett Bay but may occur, especially in winter and spring months (Kinney 2013). Harbor porpoise is the most stranded cetacean in Rhode Island, with a strong seasonal occurrence in the spring. Construction activity could occur at any time of year and would be short-term and intermittent. Therefore, the average species density was determined to be appropriate for estimating takes of harbor porpoise. Based on density data for Narragansett Bay (NMSDD, Navy 2017), the average density of harbor porpoise was determined to be 0.012/km^2. Using this information, 4 takes by Level B harassment were calculated for Years 1 and 4, 2 takes for Year 2, and 7 takes for Year 3 (Table 13). Because the calculated take in Year 2 was less than the group size, the annual take by Level B harassment for harbor porpoise has been increased to the average group size (3) and multiplied by two for 6 takes (NAVSEA NUWC 2017) as a conservative approach to account for more vibratory and impact pile driving activities that occur during that year in two sections (S366 and Pier 1)). Therefore, the Navy requested, and NMFS authorized, 4 takes in Years 1 and 4, 6 takes in Year 2, and 7 takes in Year 3, and a total of 21 takes by Level B harassment of harbor porpoise (Table 13). Level A harassment could occur during years 1, 3 and 4 (Table 13).

Table 13—Estimated Take for Harbor Porpoise

Construction Year	Authorized Level A harassment	Calculated Level B harassment	Authorized Level B harassment
Year 1 (S45)	1	4	4
Year 2 (S366 and Pier 01)	0	2	6
Year 3 (LNG)	2	7	7
Year 4 (S499/Pier 2)	1	4	4
TOTAL	4	17	21

Harbor Seal

Harbor seals are the most common seal in Narragansett Bay, which is a well-known winter feeding ground for the species (Moll *et al*., 2017). Seals are commonly observed from late September through April (Moll *et. al*., 2017; DeAngelis, 2020). Of the

22 known haulouts within Narragansett Bay, The Sisters is the nearest haulout to the project area (0.9 mi). Harbor seals are rarely observed at The Sisters haulout in the early fall (September – October) but consistent numbers are regularly observed in mid-November (0-10 animals). These numbers gradually increase with peak numbers in the upper 40s occurring in March, typically at low tide (DeAngelis, 2020). The NMSDD (Navy, 2017a) models harbor and gray seals as a guild due to the difficulty in distinguishing these species at sea. Harbor seal is expected to be the most common pinniped in Narragansett Bay with year-round occurrence (Kenney and Vigness-Raposa, 2010). Therefore, the maximum species density for the harbor-gray seal guild was determined to be appropriate for estimating takes of harbor seal. Based on density data for Narragansett Bay (Navy, 2017a), the maximum density of seals was determined to be 0.623/km^2. This density value is for all seals (harbor and gray seals as a guild); therefore, this density value results in some degree of overestimation when applied to harbor seals only. The Navy requested and NMFS authorized a high of 25 takes by Level A harassment and 353 takes by Level B harassment during Year 3, and a low of 13 takes by Level A harassment and 138 takes by Level B harassment during Year 2 (Table 14).

Table 14--Estimated Take for Harbor Seal

Construction Year	Authorized Level A harassment	Authorized/ Calculated Level B harassment
Year 1 (S45)	15	188
Year 2 (S366 and Pier 01)	13	138
Year 3 (LNG)	25	353
Year 4 (S499/Pier 2)	25	221
Total	78	900

Gray Seal

Based on stranding records, gray seals are seasonally present in Rhode Island with the largest populations occurring from February through June with a sharp peak in March and April. The NMSDD (Navy, 2017a) provides combined densities for harbor seal and

gray seal (as discussed above). Gray seals are the second most likely seal to be observed in Rhode Island waters, next to harbor seals, and more of an occasional visitor (Kenney, 2020); therefore, the average species density for the harbor-gray seal guild was determined to be appropriate for determining takes of gray seal. Based on density data for Narragansett Bay (Navy, 2017a), the average density of seals was determined to be 0.131/km^2. This density value is for all seals (harbor and gray seals as a guild); therefore, it results in some degree of overestimation when applied to gray seals only. Calculated takes by Level A harassment and Level B harassment may occur each construction year with up to 5 takes by Level A harassment and 74 takes by Level B harassment during Year 3. Fewer annual takes were calculated for Year 2 and 3 by Level A harassment and 28 takes by Level B (Table 15). Because the calculated annual take is below the average group size, the annual take by Level B harassment for gray seal has been increased to the average group size (50 gray seals) (NAVSEA NUWC 2017) and conservatively doubled for Year 1, 2, and 4, during which years calculated takes were less than group size. Therefore, the Navy requested, and NMFS authorized, 100 takes of gray seals in Years 1, 2 and 4, and 74 takes in Year 3, and a total of 374 takes by Level B harassment of gray seals. A total of 17 takes of gray seals by Level A harassment is also authorized.

Table 15—Estimated Take for Gray Seal

Construction Year	Authorized Level A harassment	Calculated Level B harassment	Authorized Level B harassment
Year 1 (S45)	3	40	100
Year 2 (S366 and Pier 01)	3	28	100
Year 3 (LNG)	5	74	74
Year 4 (S499/Pier 2)	6	41	100
TOTAL	17	183	374

Harp Seal

Harp seals may be present in the project vicinity January through May. In general, harp seals are much rarer than the harbor seal and gray seal in Narragansett Bay and are

rarely observed in the bay (Kenney, 2015). Therefore, the minimum species density was determined to be appropriate for determining takes of harp seal. Based on density data for Narragansett Bay obtained from the NMSDD (Navy 2017), the minimum density of harp seal was determined to be 0.050/km^2. The Navy requested and NMFS authorized that 2 takes by Level A harassment could occur in Year 3, and 1 take by Level A harassment in Years 1, 2, and 4, for a total of 5 takes (Table 16). Calculated takes by Level B harassment range from 11 to 29 and total 72 takes over the project (Table 16).

Table 16—Estimated Take for Harp Seal

Construction Year	Authorized Level A harassment	Authorized/ Calculated Level B harassment
Year 1 (S45)	1	16
Year 2 (S366 and Pier 1)	1	11
Year 3 (LNG)	2	29
Year 4 (S499/Pier 2)	2	18
TOTAL	6	74

Hooded Seal

Hooded seals may be present in the project vicinity from January through May, although their exact seasonal densities are unknown. In general, hooded seals are much rarer than the harbor seal and gray seal in Narragansett Bay and are rarely observed in the Bay (Kenney, 2005). Based on density data for Narragansett Bay obtained from the NMSDD, the minimum density of hooded seal was determined to be 0.001/km^2. Hooded seals have the potential to occur but are considered the least likely seal to be present in Narragansett Bay. No Level A (PTS onset) or Level B (behavioral) takes are anticipated during any construction year. However, in order to guard against unauthorized take, the Navy is requesting, and NMFS authorized, 1 Level B (behavioral) take of hooded seal per month of construction when this species may occur (Jan through May) for each construction year for a total of 20 takes by Level B harassment (Table 17). No take by Level A harassment is anticipated to occur or is authorized.

Table 17—Estimated Take for Hooded Seal

Construction Year	Authorized Level B harassment
Year 1 (S45)	5
Year 2 (S366 and Pier 1)	5
Year 3 (LNG)	5
Year 4 (S499/Pier 2)	5
TOTAL	20

Table 18 below summarizes the authorized take for all the species described above as a percentage of stock abundance.

Table 18 -- Take Estimates as a Percentage of Stock Abundance

Species	Stock (N_{EST})	Level A Harassment	Level B Harassment	Percent of Stock
Atlantic White-sided Dolphin	Western North Atlantic (93,233)	0	48	Less than 1 percent
Common Dolphin	Western North Atlantic (172,974)	0	140	Less than 1 percent
Harbor Porpoise	Gulf of Maine/Bay of Fundy (95,543)	4	21	Less than 1 percent
Harbor Seal	Western North Atlantic (61,336)	78	900	Less than 2 percent
Gray Seal	Western North Atlantic (451,600)	17	374	Less than 1 percent
Harp Seal	Western North Atlantic (7.6 million)	6	74	Less than 1 percent
Hooded Seal	Western North Atlantic (593,500)	0	20	Less than 1 percent

Mitigation

Under section 101(a)(5)(A) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable adverse impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not

applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, we carefully consider two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

The following mitigation measures are planned for the Navy's in-water construction activities.

General

The Navy will follow mitigation procedures as described below. In general, if poor environmental conditions restrict full visibility of the shutdown zone, pile driving activities would be delayed.

Training

The Navy will ensure that construction supervisors and crews, the monitoring team, and relevant Navy staff are trained and prior to the start of construction activity subject to this rule, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project will be trained prior to commencing work.

Avoiding Direct Physical Interaction

The Navy will avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m of such activity, operations will cease and vessels will reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction.

Shutdown Zones

The Navy will establish shutdown zones for all pile driving activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Shutdown zones will vary based on the activity type and marine mammal hearing group (Table 19). For those activities with larger Level A (PTS onset) harassment zones, the shutdown zone would be limited to 150 m from the point of noise generation to ensure adequate monitoring for each bulkhead section and the remaining area would be considered part of the "disturbance zone." The disturbance zone is the Level B harassment zone and, where present, the Level A harassment zone (PTS onset) beyond 150 m from the point of noise generation (see Figures 6-1 through 6-4 of the Navy's application). For activities where the Level A (PTS onset) harassment zones are smaller, the disturbance zone would include the entire region of influence (ROI) and is the full extent of potential underwater noise impact (Level A and Level B calculated harassment zones). Work will be allowed to proceed without cessation while

marine mammals are in the disturbance zone and marine mammal behavior within the disturbance zone will be monitored and documented.

Table 19--Pile Driving Shutdown Zone and Disturbance Zones during Project Activities

Pile Type	Installation Method	Pile Diameter	Shut Down Zone For Cetaceans	Shut Down Zonefor Pinnipeds	Disturbance Zone
Steel pipe	Impact	30-in	150 m	150 m	2,500 m
	Impact	42-in	150 m	50 m	2,500 m
Steel H	Vibratory	14-in	10 m	10 m	ROI
Z-Shaped Steel Sheet	Vibratory	22.5-in	30 m	10 m	ROI
	Impact	22.5-in	150 m	150 m	2,500 m
	Vibratory	31.5-in	20 m	10 m	ROI
	Impact	31.5-in	150 m	150 m	2,500 m

*ROI = region of influence and is the full extent of potential underwater noise impact (Level A and Level B calculated harassment zones).

Soft Start

The Navy will use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of three strikes from the hammer at reduced energy, followed by a 30-second waiting period. Then two subsequent reduced-energy strike sets would occur. A soft start will be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer. Soft start is not required during vibratory pile driving activities.

Based on our evaluation of the applicant's planned measures, NMFS has determined that the mitigation measures provide the means of effecting the least practicable adverse impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such

taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the action area. Effective reporting is critical both to compliance as well as for ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

The Navy will submit a Marine Mammal Monitoring Plan to NMFS for approval in advance of the start of construction.

Monitoring Zones

The Navy will conduct monitoring to include the area within the Level B harassment zones (areas where SPLs are equal to or exceed the 160 dB rms threshold for impact driving and the 120 dB rms threshold during vibratory pile driving) (see Disturbance Zones in Table 19). These disturbance zones provide utility for monitoring conducted for mitigation purposes (*i.e.*, shutdown zone monitoring) by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring of the disturbance zones enables observers to be aware of and communicate the presence of marine mammals in the project area, but outside the shutdown zone, and thus prepare for potential shutdowns of activity.

Visual Monitoring

Monitoring must take place from 30 minutes (min) prior to initiation of pile driving activity (*i.e*., pre-start clearance monitoring) through 30 min post-completion of pile driving activity. If a marine mammal is observed entering or within the shutdown zones, pile driving will be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone or 15 min have passed without re-detection of the animal. Pile driving activity will be halted upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the disturbance zone.

PSO Monitoring Requirements and Locations

PSOs will be responsible for monitoring, the shutdown zones, the disturbance zones and the pre-clearance zones, as well as effectively documenting Level A and B harassment take. As described in more detail in the Reporting section below, they will also (1) document the frequency at which marine mammals are present in the project

area, (2) document behavior and group composition, (3) record all construction activities, and (4) document observed reactions (changes in behavior or movement) of marine mammals during each sighting. The PSOs will monitor for marine mammals during all in-water pile activities associated with the project. The Navy will monitor the project area to the extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions. Visual monitoring will be conducted by, at a minimum, by two PSOs. It is assumed that two to three PSOs would be sufficient to monitor the respective ROIs given the abundance of suitable vantage points. Any activity that would result in threshold exceedance at or more than 1,000 m would require a minimum of three PSOs to effectively monitor the entire ROI. However, additional monitors may be added if warranted by site conditions and/or the level of marine mammal activity in the area. Trained PSOs will be placed at the best vantage point(s) practicable such as on nearby breakwaters, Gould Island, Coddington Point, or Taylor Point (see Figure 11-1 of the Navy's application) to monitor for marine mammals and implement shutdown/delay procedures when applicable. The PSOs must record all observations of marine mammals, regardless of distance from the pile being driven.

In addition, PSOs will work in shifts lasting no longer than 4 hrs with at least a 1-hr break between shifts and will not perform duties as a PSO for more than 12 hrs in a 24-hr period (to reduce PSO fatigue).

Monitoring of pile driving will be conducted by qualified, NMFS-approved PSOs. The Navy shall adhere to the following conditions when selecting PSOs:

- PSOs must be independent (*i.e.*, not construction personnel) and have no other assigned tasks during monitoring periods;
- At least one PSO must have prior experience performing the duties of a PSO during construction activities pursuant to a NMFS-issued incidental take authorization;

- Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training;
- Where a team of three PSOs are required, a lead observer or monitoring coordinator shall be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization; and
- PSOs must be approved by NMFS prior to beginning any activity subject to this rule.

The Navy will ensure that the PSOs have the following additional qualifications:

- Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance; use of binoculars may be necessary to correctly identify the target;
- Experience and ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and
- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

Acoustic Monitoring

The Navy will conduct a sound source verification (SSV) study for all pile types and will follow accepted methodological standards to achieve their objectives. The Navy will submit an acoustic monitoring plan to NMFS for approval prior to the start of construction.

Reporting

The Navy will submit a draft report to NMFS within 90 workdays of the completion of required monitoring for each portion of the project as well as a comprehensive summary report at the end of the project. The report will detail the monitoring protocol and summarize the data recorded during monitoring. Final annual reports (each portion of the project and comprehensive) must be prepared and submitted within 30 days following resolution of any NMFS comments on the draft report. If no comments are received from NMFS within 30 days of receipt of the draft report, the report shall be considered final. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments. All draft and final marine mammal monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov* and *ITP.Egger@noaa.gov*. The reports must contain the following informational elements, at minimum, (and be included in the Marine Mammal Monitoring Plan), including:

- Dates and times (begin and end) of all marine mammal monitoring;
- Construction activities occurring during each daily observation period, including:
    - How many and what type of piles were driven and by what method (*e.g.*, impact or vibratory); and
    - Total duration of driving time for each pile (vibratory driving) and number of strikes for each pile (impact driving);
- PSO locations during marine mammal monitoring;

- Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;
- Upon observation of a marine mammal, the following information:
    - PSO who sighted the animal and PSO location and activity at time of sighting;
    - Time of sighting;
    - Identification of the animal (*e.g.*, genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;
    - Distance and bearing of each marine mammal observed to the pile being driven for each sighting (if pile driving was occurring at time of sighting);
    - Estimated number of animals (minimum/maximum/best);
    - Estimated number of animals by cohort (adults, juveniles, neonates, group composition, etc.;
    - Animal's closest point of approach and estimated time spent within the harassment zone; and
    - Description of any marine mammal behavioral observations (*e.g.*, observed behaviors such as feeding or traveling), including an assessment of behavioral responses to the activity (*e.g.*, no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Detailed information about implementation of any mitigation (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal, if any; and

- All PSO datasheets and/or raw sightings data.

Reporting of Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Navy will report the incident to NMFS Office of Protected Resources (OPR) (*PR.ITP.MonitoringReports@noaa.gov*), NMFS (301-427-8401) and to the Greater Atlantic Region New England/Mid-Atlantic Stranding Coordinator (866-755-6622) as soon as feasible. If the death or injury was clearly caused by the specified activity, the Navy must immediately cease the specified activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this rule. The Navy will not resume their activities until notified by NMFS. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact

determination. In addition to considering estimates of the number of marine mammals that might be taken through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, this introductory discussion of our analyses applies to all of the species listed in Table 3, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks in anticipated individual responses to activities, impacts of expected take on the population due to differences in population status, or impacts on habitat, they are described independently in the analysis below.

Pile driving activities associated with the project, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level A and Level B harassment from underwater sounds generated by pile driving. Potential takes could occur if marine mammals are present in zones ensonified above the thresholds for Level A and Level B harassment, identified above, while activities are underway.

No serious injury or mortality would be expected even in the absence of the planned mitigation measures. During all impact driving, implementation of soft start

procedures and monitoring of established shutdown zones will be required, significantly reducing the possibility of injury. Given sufficient notice through use of soft start (for impact driving), marine mammals are expected to move away from an irritating sound source prior to it becoming potentially injurious. In addition, PSOs will be stationed within the action area whenever pile driving activities are underway. Depending on the activity, the Navy will employ the use of at least two and up to three PSOs to ensure all monitoring and shutdown zones are properly observed. For Atlantic white-sided dolphins, common dolphins and hooded seals, no Level A harassment is anticipated. Atlantic white-sided dolphin and common dolphin are both species in which regular occurrence is in much deeper waters than the project area, and, given the small Level A harassment zone sizes for mid-frequency cetaceans, we do not anticipate take by Level A harassment. For hooded seals which are a rare species in Narragansett Bay, with the absence of any major rookeries and only one pinniped haulout (The Sisters) within the project area, we do not anticipate any take by Level A harassment.

The Navy's planned pile driving activities and associated impacts will occur within a limited portion of the confluence of the Narraganset Bay area. Exposures to elevated sound levels produced during pile driving activities may cause behavioral disturbance of some individuals, but they are expected to be mild and temporary. However, as described previously, the mitigation and monitoring measures are expected to further reduce the likelihood of injury as well as reduce behavioral disturbances.

Effects on individuals that are taken by Level B harassment, as enumerated in the **Estimated Take** section, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.*, Thorson and Reyff 2006). Most likely, individual animals will simply move away from the sound source and be temporarily displaced from the areas of pile

driving, although even this reaction has been observed primarily only in association with impact pile driving. The pile driving activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted along both Atlantic and Pacific coasts, which have taken place with no known long-term adverse consequences from behavioral harassment. These reactions and behavioral changes are expected to subside quickly when the exposures cease. Level B harassment will be minimized through use of mitigation measures described herein, and, if sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activity is occurring, particularly as the project is located on a waterfront with vessel traffic from both Navy and non-Navy activities.

The project is also not expected to have significant adverse effects on any marine mammal habitat. The project activities will not modify existing marine mammal habitat since the project will occur within the same footprint as existing marine infrastructure. Impacts to the immediate substrate during installation and removal of piles are anticipated, but these would be limited to minor, temporary suspension of sediments, which could impact water quality and visibility for a short amount of time but which would not be expected to have any effects on individual marine mammals. The nearshore and intertidal habitat where the project will occur is an area of consistent vessel traffic from Navy and non-Navy vessels, and some local individuals would likely be somewhat habituated to the level of activity in the area, further reducing the likelihood of more severe impacts. The closest pinniped haulout, The Sisters, is used by harbor seals and is less than a mile from the project area; however, for the reasons described immediately above (including the nature of expected responses and the duration of the project), impacts to reproduction or survival of individuals is not anticipated, much less effects on the species or stock. There are no other biologically important areas for marine mammals near the project area.

In addition, impacts to marine mammal prey species are expected to be minor and temporary. Overall, the area impacted by the project is very small compared to the available habitat in Narragansett Bay. The most likely impact to prey will be temporary behavioral avoidance of the immediate area. During pile driving activities, it is expected that some fish and marine mammals would temporarily leave the area of disturbance, thus impacting marine mammals' foraging opportunities in a limited portion of the foraging range. But, because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No mortality is anticipated or authorized;
- No Level A harassment is anticipated or authorized for Atlantic white-sided dolphins, Short-beaked common dolphins, and hooded seals;
- Anticipated incidents of Level B harassment consist of, at worst, temporary modifications in behavior;
- The required mitigation measures (*i.e.*, shutdown zones) are expected to be effective in reducing the effects of the specified activity;
- Minimal impacts to marine mammal habitat/prey are expected;
- The action area is located within an active marine waterfront area, and
- There are no known biologically important areas in the vicinity of the project, with the exception of one harbor seal haulout (The Sisters) – however, as described above, exposure to the work conducted in the vicinity of the haulout is not expected to impact the reproduction or survival of any individual seals.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat and, taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the planned activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under sections 101(a)(5)(A) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers, so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

Take of seven of the marine mammal stocks authorized will comprise at most approximately 2 percent or less of the stock abundance (Table 18). The number of animals authorized to be taken from these stocks would be considered small relative to the relevant stock's abundances even if each estimated take occurred to a new individual, which is an unlikely scenario. Based on the analysis contained herein of the planned activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Adaptive Management

The regulations governing the take of marine mammals incidental to Navy construction activities would contain an adaptive management component. The reporting requirements associated with this rule are designed to provide NMFS with monitoring data from completed projects to allow consideration of whether any changes are appropriate. The use of adaptive management allows NMFS to consider new information from different sources to determine (with input from the Navy regarding practicability) on an annual or biennial basis if mitigation or monitoring measures should be modified (including additions or deletions). Mitigation measures could be modified if new data suggests that such modifications would have a reasonable likelihood of reducing adverse effects to marine mammals and if the measures are practicable.

The following are some of the possible sources of applicable data to be considered through the adaptive management process: (1) Results from monitoring reports, as required by MMPA authorizations; (2) results from general marine mammal and sound research; and (3) any information which reveals that marine mammals may have been taken in a manner, extent, or number not authorized by these regulations or subsequent LOAs.

Endangered Species Act

Section 7(a)(2) of the ESA (16 U.S.C. 1531 *et seq*.) requires that each Federal agency ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA

compliance for the issuance of incidental take authorizations, NMFS consults internally whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is authorized or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq*.) and NOAA Administrative Order (NAO) 216-6A, NMFS must evaluate our proposed action (*i.e.*, the promulgation of regulations and subsequent issuance of incidental take authorization) and alternatives with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 of the Companion Manual for NAO 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that this action qualifies to be categorically excluded from further NEPA review.

Classification

Pursuant to the procedures established to implement Executive Order 12866, the Office of Management and Budget has determined that this final rule is not significant.

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA), the Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration at the proposed rule stage that this action will not have a significant economic impact on a substantial number of small entities. The Navy is the sole entity that would be subject to the requirements in these regulations, and the Navy is not a small governmental jurisdiction, small organization, or

small business, as defined by the RFA. No comments were received regarding this certification. As a result, a regulatory flexibility analysis is not required, and none has been prepared.

This final rule does not contain a collection-of-information requirement subject to the provisions of the Paperwork Reduction Act (PRA) because the applicant is a federal agency.

List of Subjects in 50 CFR Part 217

Administrative practice and procedure, Alaska, Endangered and threatened species, Exports, Fish, Imports, Indians, Labeling, Marine mammals, Oil and gas exploration, Penalties, Reporting and recordkeeping requirements, Seafood, Transportation, Wildlife.

Dated: December 10, 2021.

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Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

For reasons set forth in the preamble, 50 CFR part 217 is amended as follows:

PART 217—REGULATIONS GOVERNING THE TAKE OF MARINE MAMMALS INCIDENTAL TO SPECIFIED ACTIVITIES

1. The authority citation for part 217 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq*., unless otherwise noted.

2. Effective from May 15, 2022, through May 14, 2027, add subpart R to read as follows:

Subpart R – Taking and Importing Marine Mammals Incidental to U.S. Navy Bulkhead Replacement/Repairs at Naval Station Newport in Newport, Rhode Island

Sec.

Subpart R – Taking and Importing Marine Mammals Incidental to U.S. Navy Bulkhead Replacement/Repairs at Naval Station Newport in Newport, Rhode Island

§ 217.70 Specified activity and geographical region.

(a) Regulations in this subpart apply only to the U.S. Navy (Navy) and those persons it authorizes or funds to conduct activities on its behalf for the taking of marine mammals that occurs in the areas outlined in paragraph (b) of this section and that occurs incidental to construction activities including for bulkhead replacement and repairs at Naval Station (NAVSTA) Newport, Rhode Island.

(b) The taking of marine mammals by the Navy may be authorized in a Letter of Authorization (LOA) only if it occurs at NAVSTA Newport, Rhode Island.

§ 217.71 Effective dates.

Regulations in this subpart are effective from May 15, 2022, through May 14, 2027.

§ 217.72 Permissible methods of taking.

Under an LOA issued pursuant to §§ 216.106 of this chapter and 217.76, the Holder of the LOA (hereinafter "Navy") may incidentally, but not intentionally, take marine mammals within the area described in § 217.70(b) by harassment associated with bulkhead replacement and repairs construction activities, provided the activity is in

compliance with all terms, conditions, and requirements of the regulations in this subpart and the applicable LOA.

§ 217.73 Prohibitions.

(a) Except for the takings contemplated in § 217.72 and authorized by a LOA issued under §§ 216.106 of this chapter and 217.76, it is unlawful for any person to do any of the following in connection with the activities described in § 217.70:

(1) Violate, or fail to comply with, the terms, conditions, and requirements of this subpart or a LOA issued under §§ 216.106 of this chapter and 217.76;

(2) Take any marine mammal not specified in such LOA;

(3) Take any marine mammal specified in such LOA in any manner other than as specified;

(4) Take a marine mammal specified in such LOA if NMFS determines such taking results in more than a negligible impact on the species or stocks of such marine mammal; or

(b) [Reserved]

§ 217.74 Mitigation requirements.

(a) When conducting the activities identified in § 217.71(a), the mitigation measures contained in any LOA issued under §§ 216.106 of this chapter and 217.76 must be implemented. These mitigation measures must include but are not limited to:

(1) A copy of any issued LOA must be in the possession of the Navy, supervisory construction personnel, lead protected species observers (PSOs), and any other relevant designees of the Holder operating under the authority of this LOA at all times that activities subject to this LOA are being conducted.

(2) The Navy will follow mitigation procedures as described in this section. Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone would not be visible (e.g., fog, heavy rain , night), the Holder shall delay

pile driving and removal until observers are confident marine mammals within the shutdown zone could be detected.

(3) The Navy will ensure that construction supervisors and crews, the monitoring team, and relevant Navy staff are trained prior to the start of all activities subject to this rule, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project will be trained prior to commencing work.

(4) The Navy, construction supervisors and crews, PSOs, and relevant Navy staff will avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m of such activity, operations will cease and vessels will reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary, to avoid direct physical interaction.

(5) The Navy will employ PSOs and establish monitoring locations as described in this rule and the Marine Mammal Monitoring Plan. The Navy will monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.

(6) Monitoring will take place from 30 minutes prior to initiation of pile driving activity (i.e., pre-start clearance monitoring) through 30 minutes post-completion of pile driving activity.

(7) If a marine mammal is observed entering or within the shutdown zones indicated in this rule, pile driving activity must be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal.

(8) The Navy will establish shutdown zones for all pile driving activities. Shutdown zones are limited to 150 m from the point of noise generation. Any remaining area within estimated Level A harassment zones shall be considered part of the "disturbance zone," i.e., the Level B harassment zone and, where present, the Level A harassment zone (PTS onset) beyond 150 m from the point of noise generation. For activities where the estimated Level A (PTS onset) harassment zones are smaller than 150 m, the disturbance zone shall include the entire region of influence (ROI), i.e., estimated Level A and Level B harassment zones). Work may proceed without cessation while marine mammals are in the disturbance zone and marine mammal behavior within the disturbance zone will be monitored and documented.

(9) The Navy will conduct monitoring to include the area within the Level B harassment zones (areas where SPLs are equal to or exceed the 160 dB rms threshold for impact driving and the 120 dB rms threshold during vibratory pile driving (disturbance zone).

(10) Pre-start clearance monitoring will be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones are clear of marine mammals. Pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.

(11) If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone indicated or 15 minutes have passed without re-detection of the animal.

(12) The Navy will use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of three strikes from the hammer at reduced energy, followed by a 30-second waiting period. Then two subsequent reduced-energy strike sets would occur. A soft start will be implemented at the start of each day's impact

pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer. Soft start is not required during vibratory pile driving activities.

(13) Pile driving activity must be halted upon observation of either a species entering or within the harassment zone, for which incidental take is not authorized, or a species for which incidental take has been authorized but the authorized number of takes has been met.

(b) [Reserved]

§ 217.75 Requirements for monitoring and reporting.

(a) Marine Mammal monitoring must be conducted in accordance with the conditions in this section and the Marine Mammal Monitoring Plan. The Navy must submit a Marine Mammal Monitoring Plan to NMFS for approval in advance of construction.

(b) Monitoring must be conducted by qualified, NMFS-approved PSOs, in accordance with the following conditions:

(1) PSOs must be independent (i.e., not construction personnel) and have no other assigned tasks during monitoring periods.

(2) At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

(3) Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

(4) Where a team of three or more PSOs is required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

(5) PSOs must be approved by NMFS prior to beginning any activity subject to this LOA.

(c) The Navy will establish the following monitoring locations. For all pile driving activities, a minimum of one PSO will be assigned to each active pile driving location to monitor the shutdown zones. Trained PSOs will be placed at the best vantage point(s) practicable such as on nearby breakwaters, Gould Island, Coddington Point, or Taylor Point. Visual monitoring will be conducted by, at a minimum, by two PSOs. It is assumed that two to three PSOs would be sufficient to monitor the respective ROIs given the abundance of suitable vantage points. Any activity that would result in threshold exceedance at or more than 1,000 m would require a minimum of three PSOs to effectively monitor the entire ROI. However, additional monitors may be added if warranted by site conditions and/or the level of marine mammal activity in the area.

(d) PSOs must record all observations of marine mammals, regardless of distance from the pile being driven, as well as the additional data indicated in the reporting requirements.

(e) Acoustic monitoring will be conducted in accordance with the Acoustic Monitoring Plan. The Navy will conduct hydroacoustic data collection (sound source verification and propagation loss) in accordance with a hydroacoustic monitoring plan that must be approved by NMFS in advance of construction.

(f) The shutdown/disturbances zones may be modified with NMFS' approval following NMFS' acceptance of an acoustic monitoring report.

(g) The Navy will submit a draft monitoring report to NMFS within 90 calendar days of the completion of required monitoring for each portion of the project as well as a comprehensive summary report at the end of the project. The report will detail the monitoring protocol and summarize the data recorded during monitoring. Final annual reports (each portion of the project and comprehensive) must be prepared and submitted

within 30 days following resolution of any NMFS comments on the draft report. If no comments are received from NMFS within 30 days of receipt of the draft report, the report must be considered final. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments.

(h) All draft and final monitoring reports must be submitted to PR.ITP.MonitoringReports@noaa.gov and ITP.Egger@noaa.gov.

(i) The marine mammal report must contain the informational elements described ed in the Marine Mammal Monitoring Plan and, at minimum, include:

(1) Dates and times (begin and end) of all marine mammal monitoring;

(2) Construction activities occurring during each daily observation period, including: the number and types of piles were driven or removed and by what method (*i.e.*, impact or vibratory) and the total duration of driving time for each pile (vibratory driving) and number of strikes for each pile (impact driving); and

(3) PSO locations during marine mammal monitoring;

(4) Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;

(5) Upon observation of a marine mammal, the following information:

(i) Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting.

(ii) Time of sighting; and

(iii) Identification of the animal (e.g., genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;

(iv) Distances and location of each marine mammal observed relative to the pile being driven or removed;

(v) Estimated number of animals (min/max/best);

(vi) Estimated number of animals by cohort (adults, juveniles, neonates, group composition etc.);

(vii) Animal's closest point of approach and estimated time spent within the harassment zone; and

(viii) Description of any marine mammal behavioral observations (*e.g.*, observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.*, no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);

(6) Number of marine mammals detected within the harassment zones, by species;

(7) Detailed information about any implementation of any mitigation triggered (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting of the behavior of the animal, if any;

(8) The Navy will submit all PSO datasheets and/or raw sightings data with the draft reports.

(j) The Navy must report the hydroacoustic data collected as required by a LOA issued under §§ 216.106 of this chapter and 217.76 and as described in the Acoustic Monitoring Plan, and at a minimum, must include:

(1) Hydrophone equipment and methods: recording device, sampling rate, distance (m) from the pile where recordings were made; depth of water and recording device(s);

(2) Type and size of pile being driven, substrate type, method of driving during recordings (e.g., hammer model and energy), and total pile driving duration;

(i) Whether a sound attenuation device is used and, if so, a detailed description of the device used and the duration of its use per pile;

(ii) For impact pile driving (per pile): Number of strikes and strike rate; depth of substrate to penetrate; pulse duration and mean, median, and maximum sound levels (dB re: 1 μPa): root mean square sound pressure level (SPLrms); cumulative sound exposure level (SELcum), peak sound pressure level (SPLpeak), and single-strike sound exposure level (SELs-s);

(iii) For vibratory driving/removal (per pile): Duration of driving per pile; mean, median, and maximum sound levels (dB re: 1 μPa): root mean square sound pressure level (SPLrms), cumulative sound exposure level (SELcum) (and timeframe over which the sound is averaged); and

(iv) One-third octave band spectrum and power spectral density plot.

(k) In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Navy must report the incident to NMFS Office of Protected Resources (OPR), NMFS (*PR.ITP.MonitoringReports@noaa.gov* and *ITP.Egger@noaa.gov*) Monitoring) and to the Greater Atlantic Region New England/Mid-Atlantic Stranding Coordinator, as soon as feasible. If the death or injury was clearly caused by the specified activity, the Navy must immediately cease the specified activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this rule and the LOA issued under §§ 216.106 of this chapter and 217.76. The Navy will not resume their activities until notified by NMFS. The report must include the following information:

(1) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

(2) Species identification (if known) or description of the animal(s) involved;

(3) Condition of the animal(s) (including carcass condition if the animal is dead);

(4) Observed behaviors of the animal(s), if alive;

(5) If available, photographs or video footage of the animal(s); and

(6) General circumstances under which the animal was discovered.

§ 217.76 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, the Navy must apply for and obtain an LOA.

(b) An LOA, unless suspended or revoked, may be effective for a period of time not to exceed the expiration date of these regulations.

(c) If an LOA expires prior to the expiration date of these regulations, the Navy may apply for and obtain a renewal of the LOA.

(d) In the event of projected changes to the activity or to mitigation and monitoring measures required by an LOA, the Navy must apply for and obtain a modification of the LOA as described in § 217.77.

(e) The LOA will set forth the following information:

(1) Permissible methods of incidental taking;

(2) Means of effecting the least practicable adverse impact (*i.e.,* mitigation) on the species, its habitat, and on the availability of the species for subsistence uses; and

(3) Requirements for monitoring and reporting.

(f) Issuance of the LOA will be based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under these regulations.

(g) Notice of issuance or denial of an LOA will be published in the **Federal Register** within 30 days of a determination.

§ 217.77 Renewals and modifications of Letters of Authorization.

(a) An LOA issued under §§ 216.106 of this chapter and 217.76 for the activity identified in § 217.70(a) may be renewed or modified upon request by the applicant, provided that:

(1) The specified activity and mitigation, monitoring, and reporting measures, as well as the anticipated impacts, are the same as those described and analyzed for these regulations; and

(2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOA under these regulations were implemented.

(b) For LOA modification or renewal requests by the applicant that include changes to the activity or the mitigation, monitoring, or reporting that do not change the findings made for the regulations or result in no more than a minor change in the total estimated number of takes (or distribution by species or years), NMFS may publish a notice of proposed LOA in the **Federal Register**, including the associated analysis of the change, and solicit public comment before issuing the LOA.

(c) A LOA issued under §§ 216.106 of this chapter and 217.76 for the activity identified in § 217.70(a) may be modified by NMFS under the following circumstances:

(1) NMFS may modify (including augment) the existing mitigation, monitoring, or reporting measures (after consulting with Navy regarding the practicability of the modifications) if doing so creates a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring set forth in the preamble for these regulations;

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in a LOA:

(A) Results from Navy's monitoring from previous years;

(B) Results from other marine mammal and/or sound research or studies; and

(C) Any information that reveals marine mammals may have been taken in a manner, extent or number not authorized by these regulations or subsequent LOAs; and

(ii) If, through adaptive management, the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS will publish a notice of proposed LOA in the **Federal Register** and solicit public comment;

(2) If NMFS determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in a LOA issued pursuant to §§ 216.106 of this chapter and 217.76, a LOA may be modified without prior notice or opportunity for public comment. Notification would be published in the **Federal Register** within 30 days of the action.

§§ 217.78 - 217.79 [Reserved]

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